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APPLICATION NO.	FILING DATE	/	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,252

03/17/2005

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SPRUSON-09804

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05/30/2007

EXAMINER

BOTTORFF, CHRISTOPHER

ART UNIT

PAPER NUMBER

3618

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/528,252	<b>Applicant(s)</b> RUSH, ALLAN	
	<b>Examiner</b> Christopher Bottorff	<b>Art Unit</b> 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-14, 18 and 31-34 is/are rejected.
- 7) ☒ Claim(s) 8, 15-17, 19-30 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/25/06</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of a certified copy of the Australian application referred to in the oath or declaration or in an application data sheet. If this copy is being filed to obtain the benefits of the foreign filing date under 35 U.S.C. 119(a)-(d), applicant should also file a claim for such priority as required by 35 U.S.C. 119(b). If the application being examined is an original application filed under 35 U.S.C. 111(a) (other than a design application) on or after November 29, 2000, the claim for priority must be presented during the pendency of the application, and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior foreign application. See 37 CFR 1.55(a)(1)(i). If the application being examined has entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the claim for priority must be made during the pendency of the application and within the time limit set forth in the PCT and Regulations of the PCT. See 37 CFR 1.55(a)(1)(ii). Any claim for priority under 35 U.S.C. 119(a)-(d) or (f) or 365(a) or (b) not presented within the time period set forth in 37 CFR 1.55(a)(1) is considered to have been waived. If a claim for foreign priority is presented after the time period set forth in 37 CFR 1.55(a)(1), the claim may be accepted if the claim properly identifies the prior foreign application and is accompanied by a grantable petition to accept an unintentionally delayed claim for priority. See 37 CFR 1.55(c).

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on October 25, 2006 was considered by the examiner.

### ***Specification***

Applicant is reminded of the proper language and format for an abstract of the disclosure. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. Note the use of "means" in lines 3, 5, 7, and 8.

### ***Drawings***

The drawings are objected to because the lines and text of figures 6A-6D are not clear. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 18, and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carman US 4,350,220 in view of Leino US 4,991,672.

Carman discloses a regenerative energy management system including energy accumulation means 40, a positive displacement hydraulic pump/motor assembly 100, and a low-pressure hydraulic reservoir 72. See Figures 1-4 and column 2, lines 1-37. The energy accumulation means 40 is operable selectively to store and release energy through controlled receipt and release of pressurized hydraulic fluid. The positive displacement hydraulic pump/motor assembly 100 is in fluid communication with the energy accumulation means 40 and the low-pressure hydraulic reservoir 72 is in fluid communication with the pump/motor assembly 100. See Figures 1-4. The pump/motor assembly 100 has a drive shaft adapted for connection to a wheel 112. See Column 2, lines 58-60. The system is arranged such that in a braking mode the pump/motor

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assembly 100 retards the associated wheel of the trailer by pumping hydraulic fluid into the accumulation means 40. See Figure 4 and column 3, lines 3-10. In a driving mode the pump/motor assembly 100 supplies supplementary power to the wheel using pressurized hydraulic fluid from the accumulation means 40. See Figures 2 and 3 and column 2, line 46, through column 3, line 2. In a neutral mode the pump/motor assembly 100 exerts no substantial driving or retarding influence on the wheel. See Figure 1 and column 3, lines 11-22. Thereby, in use, the system is adapted to supply regenerative drive and retardation to the vehicle substantially independently of prime mover 10.

The hydraulic fluid may be selectively directed through a flow control circuit, which is adapted to provide a controllable resistance enabling the pump/motor unit selectively to exert a retarding force on the drive shaft when the accumulator is fully charged. See Figures 1-4. The control system is configured to regulate braking and driving torques applied to the associated wheel in the respective braking and driving modes, in response to braking and driving control inputs to the prime mover. See Figure 4. The system is arranged to provide effective braking functionality for the vehicle in the braking mode, substantially independently of a conventional friction braking system. See Figure 4. The system is arranged to provide at least a limited degree of driving functionality for the compound vehicle in the driving mode, substantially independently of the drive train of the prime mover. See Figures 2 and 3. Also, the wheels are coupled to the regenerative energy management system. See Figures 1-4.

Carman does not disclose that the system is associated with a compound vehicle having a trailer such that the pump/motor assembly has a drive shaft adapted for connection to at least an associated independent wheel of a trailer. However, Leino teaches the desirability of arranging a vehicle hydraulic drive system with a compound vehicle having a trailer. See at least Figures 1-4. Trailer wheels are controlled through their connection with the system's pump/motor assembly drive shaft. See column 1, lines 7-27, and column 2, lines 46-56. Utilizing the system of Carman with a compound vehicle having a trailer such that the pump/motor assembly has a drive shaft adapted for connection to at least an associated independent wheel of a trailer would have been obvious to one of ordinary skill in the art at the time the invention was made. This would utilize a versatile vehicle and provide that vehicle with effective drive control.

Claims 2-7 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carman US 4,350,220 in view of Leino US 4,991,672 as applied to claim 1 above, and further in view of Cardillo US 5,058,485.

Carman does not disclose the features of dependent claims 2-7 and 9-14 defining the structure of the pump/motor assembly. However, Cardillo teaches the desirability of providing a motor/pump assembly of a hydraulic system with the claimed features. See Figures 3 and 4 and the Detailed Description. Providing the system of Carman with the claimed pump/motor assembly would have been obvious to one of ordinary skill in the art at the time the invention was made. This would provide a mechanism that effectively moves fluid through the system.

***Allowable Subject Matter***

Claims 8, 15-17, 19-30 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Knapp, Smith, Chichester et al., Saito, Bohon, Bell, Nagatomo, Puett, Jr., Bullock, Rush et al. US 6,712,166, and Rose disclose hydraulic systems.

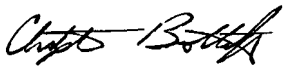
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Bottorff whose telephone number is (571) 272-6692. The examiner can normally be reached on Mon.-Fri. 7:30 a.m. - 4:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Ellis can be reached on (571) 272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Christopher Bottorff